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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,729	03/23/2004	Zachary Steven Smith	200308820-1	2539

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EXAMINER

PORTKA, GARY J

ART UNIT PAPER NUMBER

2188

DATE MAILED: 11/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/806,729

Applicant(s)

SMITH ET AL.

Examiner

Gary J. Portka

Art Unit

2188

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-5, 7-9, 12-14, and 16 is/are allowed.
- 6) ☒ Claim(s) 1,2,6,10,11,15 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

1. Claims 3, 7, 12, and 16 have been amended, and claims 18-19 have been canceled by Applicant. Claims 1-17 are pending.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claim 17 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 17 and 19 recite a computer-readable medium storing instructions which as described in the specification at page 6 might be a transmission media such as electromagnetic radiation, and thus non-statutory matter. Although it is argued that the transmission of instructions from one point to another has practical application, the claim only recites "storing" instructions that are "operable to perform a method". The claim does not require the instructions to be received by or executed in a machine.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-2, 6, 10-11, and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Sano et al., US 6,941,406 B2.

6. As to claim 1, Sano discloses the *system and method* as recited, including *virtual bus interface (at 32) that produces a bus-type transaction from a point-to-point type transaction* (see Fig. 1, col. 1 lines 50-56, and col. 3 lines 16-54), *detection logic connectable thereto to detect cache coherency protocol mode associated with an originating system that provides the point-to-point transaction* (within 32, see col. 4 lines 33-54 and 61-67, where other nodes send various coherency commands, the commands of various types indicating coherency protocol modes to the extent recited), and *coding logic connectable to the above, to control how a cache coherence transaction from the origination system is processed by the interface, based on the mode detected* (within 32, see col. 27 lines 15-18, 27-33, and 54-57, col. 28 lines 23-27 and 51-53, and col. 29 lines 4-11 and 26-29, describing transactions initiated on the bus in response to the various commands).

7. As to claim 10, Sano discloses the system substantially as described above with regard to claim 1; point-to-point and bus-type transaction logic as recited are indigenous to the functions as described above.

8. As to claims 2 and 11, Sano discloses state machine to track transaction types to the extent claimed (since the various command types are responded to).

9. As to claims 6 and 15, Sano discloses initially assume directory-based mode (since a directory at 34 is used).

10. Claims 1-2 and 10-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Quach et al., US 6,711,653 B1.

11. As to claim 1, Quach discloses the *system and method* as recited, including *virtual bus interface* (at 140 and 150) *that produces a bus-type transaction from a point-to-point type transaction* (see Figs. 1 and 3A, and col. 4 lines 10-25, where accesses between 140 and the caches 130; 160 and other chip 110 logic may be considered point-to-point, producing bus transactions therefrom on 152, 154 and 158), *detection logic connectable thereto to detect cache coherency protocol mode associated with an originating system that provides the point-to-point transaction* (reads the mode bit to determine coherency mechanism, see col. 9 lines 20-32), and *coding logic connectable to the above, to control how a cache coherence transaction from the origination system is processed by the interface, based on the mode detected* (MAA logic of 140 initiates various bus transactions dependent upon the operative coherency mechanism, see col. 9 lines 40-66, and col. 10 Table 4).

12. As to claim 10, Quach discloses the system substantially as described above with regard to claim 1; point-to-point and bus-type transaction logic as recited are indigenous to the functions as described above.

13. As to claims 2 and 11, Quach discloses state machine to track transaction types to the extent claimed (since the various coherency transactions are responded to).

Response to Arguments

14. Applicant's arguments filed September 20, 2006 have been fully considered but they are not persuasive. Applicants argue that the 35 USC 101 rejection is based upon

incorrect conclusions drawn from the Interim Guidelines. The main basis for the argument is that a claim directed to a practical application of electromagnetic energy is statutory. This is not supported by the claim language, since as stated hereinabove it is not required that any instructions be received by or executed in a machine. It is further noted that any claim that might cover non-statutory as well as statutory embodiments must be rejected under 35 USC 101.

15. Applicants argue that Sano does not convert from P2P to bus type transactions. Examiner disagrees, since 32 receives a P2P signal (from 20x and 18, in accordance with Applicant's description of a P2P system shown in the present application Fig. 2) and forwards a bus signal on 22 (in accordance with Applicant's description of a bus system shown in the present application Fig. 1).

16. Applicants argue that Sano does not route based upon coherency type, but rather based upon command type. This argument appears to be based upon "coherency type" being limited to snooping or directory protocols, but this is not required by the claim language. Examiner maintains that coherency or non-coherency commands, and the various types of coherency commands, may be considered to indicate coherency protocols to the extent claimed.

17. Applicants argue that Quach does not disclose operating based upon detecting different cache protocols, but rather detects presence or absence of a protocol. Examiner considers absence of a particular protocol to be a cache protocol itself, since this still affects cache coherency in a particular way. However, Quach only teaches

Art Unit: 2188

absence or presence of memory address aliasing, both of which may have particular cache coherence protocols (see col. 3 lines 18-25).

18. Applicants argue the references do not require a state machine, but it appears that a state machine, which basically has output(s) based upon input(s), must be required to the extent claimed.

Allowable Subject Matter

19. Claims 3-5, 7-9, 12-14, and 16 are allowed.

Conclusion

20. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary J. Portka whose telephone number is (571) 272-4211. The examiner can normally be reached on M-F 9:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on (571) 272-4210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

October 30, 2006

Gary J Portka
Primary Examiner
Art Unit 2188

GARY PORTKA
PRIMARY EXAMINER

